REMARKS

The specification, Figure 1, and abstract have been amended to make editorial changes therein, bearing in mind the criticisms in the Official Action, to place the application in condition for allowance at the time of the next Official Action.

The Official Action objected to the form of the claims and the pending claims have been replaced with new claims that are proper as to form[1]. Reconsideration and withdrawal of the objection are respectfully requested.

Claims 1-9 were rejected as anticipated by SICHANUGRIST et al. 5,133,809. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 11 is directed to an embodiment that includes the steps of applying a substantially continuous layer of doping material to the substrate (Figures 2b and 4a, for example) and, before or after this application step, imprinting a diffusion barrier material on the substrate substantially exclusively in the regions that are to be the lightly doped regions. Further, the method includes the step of creating the highly doped regions and the lightly doped regions in the substrate by diffusing dopant atoms from the doping material into the substrate.

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[1] The new claims begin with claim 11 because the PCT application originally presented claims 1-10. Original claims 1-10 were replaced with claims 1-8 in the Article 34 amendment and claim 9 was added by preliminary amendment when entering the national stage in the United States.

SICHANUGRIST et al. disclose a method for connecting amorphous silicon solar cells in series. With reference to Figure 2, the cells are connected in series by melting only the particular part of the transparent electrode 2/21/22/23 (e.g., SnO_2), the amorphous silicon layer 3/31/32/33 (that may be doped), and the printed electrode 4/41/42/43 where the printed electrode of one cell overlaps the transparent electrode of an adjacent cell to make a conductive path 6 therebetween.

The reference does not disclose the step of creating the highly doped regions and the lightly doped regions in the substrate by diffusing dopant atoms from the doping material into the substrate. Indeed, the reference is entirely silent on this point. The only heating is a melting step in a particular location that would not diffuse dopant atoms into the substrate. The reference also does not disclose the step of applying a substantially continuous layer of doping material to the substrate. The amorphous silicon layer 3 may be dop<u>ed</u>, but it is not a dop<u>ing</u> material. The reference also does not disclose the step of imprinting a diffusion barrier material on the substrate substantially exclusively in the regions that are to be the lightly doped regions. Since there are no highly doped and lightly doped regions in the glass substrate of the reference and since there is no diffusion, the reference does not teach

anything about imprinting a diffusion barrier material substantially exclusively in the lightly doped regions.

Accordingly, new claims 11-19 avoid the §102 rejection.

The dependent claims also avoid the §102 rejection. For example, claim 14 includes a sintering step that is not disclosed at all in the reference. Claim 15 includes a dopant in the diffusion barrier material; this is also not disclosed in the reference. Claim 16 adds an etchant to the diffusion barrier material and includes the step of etching the substrate that is not disclosed in the reference. Claim 19 provides a diffusing temperature that is not disclosed in the reference.

New claims 20-22 are directed to the embodiment, such as shown in Figures 2a-c, in which the diffusion barrier material is a sintered dielectric paste. The reference does not disclose this feature and thus these claims also avoid the rejection under §102.

New claim 23 is directed to the embodiment, such as shown in Figures 4a-c, in which the diffusion barrier material includes an etching agent the method includes the step of etching the substrate in the lightly doped regions. The reference does not disclose this feature and thus this claim also avoids the rejection under §102.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been

placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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APPENDIX:

The Appendix includes the following item:

- an amended abstract

- replacement drawing sheet

ABSTRACT OF THE DISCLOSURE

A method for making a semiconductor device having a pattern of highly doped regions ~~(6, 6')~~ located some distance apart in a semiconductor substrate [[(1)]] and regions ~~(7, 7', 7")~~ of low doping located between the highly doped regions ~~(6, 6')~~. A diffusion barrier material ~~(5, 5', 5")~~ is applied to the semiconductor substrate at the location of the regions of low doping by imprinting with the barrier material in the pattern of the regions of low doping. The doping material is applied after or before imprinting with barrier material so that the highly doped regions are formed essentially between the barrier material in the substrate. ~~The doping concentrations in the regions of low doping in the highly doped regions can be freely adjusted independently of one another so that a relatively low surface resistance can be obtained for the highly doped regions to give good conducting contact with the metalisation and a high surface resistance can be achieved in the regions of low doping.~~